

Technical Data Sheet

Bridge Identification:	1111010000000B01
Facility Carried:	US 12
Feature Intersected:	St. Joseph River
Location:	Bertrand Township
County:	Berrien
Region:	Southwest
Year Built:	1954
Year Reconstructed:	1998
Bridge Type:	Two-Girder System
No. of Spans:	5
Deck Area:	15,120 S.F.
Paint System:	Type 1
Paint Area:	84,500 S.F.



Plan View Looking West (1)

Fracture Critical Members

1. Pin and Hanger Assemblies
2. Tension Areas of Main Girders

Fatigue Sensitive Details

1. Welded Web Splices
2. Floorbeam-to-Girder Connections
3. Lateral Bracing-to-Girder Connections

General Bridge Description

Bridge B01 of 11101 is a five-span riveted steel plate girder bridge carrying U.S. Route 12 over the St. Joseph River in Bertrand Township in Berrien County. The five spans measure 87'-0", 100'-0", 101'-0", 100'-0" and 87'-0" from west to east. The total bridge length is 480'-0". The out-to-out width of the deck is 31'-6" in each direction, providing for two 12'-0" travel lanes and narrow shoulders in each direction with a 6'-0" painted median separating travel directions. The bridge is supported by reinforced concrete abutments and rigid frame piers.

The floor system is comprised of longitudinal stringers and transverse floorbeams, which frame into the two main girders along either edge of the deck in both directions. Spans 2 and 4 have suspended spans of 56'-0," each of which is supported by pin and hanger assemblies at the end of the girders cantilevered from Spans 1 & 3 and 3 & 5. See Elevation drawing.

The bridge was built in 1954. The superstructure was painted in 1988. The bridge was rehabilitated in 1998 when the deck was replaced.



South Elevation (2)



South Elevation, West Pier and Pin and Hanger (3)

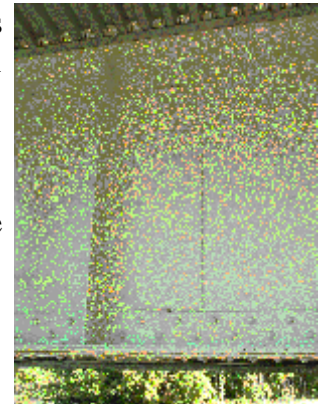
Inspection Checklists

For additional information and detailed inspection procedures, refer to the Inspection and Maintenance Program section of this manual.

Fracture Critical Members/Fatigue Sensitive Details

! **Tension areas of main girders.** The tension areas of these girders should be carefully inspected. See Figure 1 in the Inspection and Maintenance Program section of this manual for tension areas.

! **Welded web splices.** The welded web splices (Photo 4) should be carefully examined around their whole perimeter.



Welded Web Splice (4)

! **Pin and hanger assemblies.** The pins and hanger plates should be carefully inspected. There are plug welds connecting the channel that aligns the girders at the bottom of the connection. Plug welds are often an initiation point for cracking and should be inspected closely.



Pin and Hanger (5)

! **Floorbeam-to-girder connections.**

! **Lateral bracing-to-girder connections.**

Other

! **Expansion joints.** Monitor condition of these joints. Check seals for leakage, which can lead to corrosion of structural steel below.

! **Bearings.** Inspect the bearing assemblies at the piers for signs of unusual wear or cracks. Inspect to ensure they are free to move as intended.

! Tack welds at connections of stringers to floorbeams. These areas should be inspected closely, even though they are not on fracture-critical members.

Maintenance Recommendations

Regularly Scheduled Maintenance Items

Recommendation	Schedule
Clean bridge drainage system components (deck drains and downspouts).	6 to 12 months
Flush bridge deck joints and check for leaks.	12 months
Powerwash bridge superstructure.	12 months
Powerwash bearings and pin and hanger assemblies.	12 months